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# **APPENDIX I. USFWS and DFG Requests for Instream Flows**

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## **INTRODUCTION**

Reclamation received instream flow and refuge water requests in letters dated June 9, 1987 and May 18, 1987, respectively, from the DFG and USFWS. This appendix discusses the instream flow requests contracted in the letters.

The requests were prepared in response to an April 1, 1987 letter from Reclamation requesting water users to identify existing and potential water needs. The purpose of Reclamation's request was to collect information concerning fish and wildlife water needs to develop a fish and wildlife alternative (Alternative 5) for Reclamation's water contracting EISs.

After reviewing the letter requests, a meeting among Reclamation, USFWS, and DFG representatives was held on June 17, 1987 to clarify refuge and instream flows, and combine agency segments into a single set of water requirements. During the meeting, DFG and USFWS participants emphasized several concerns regarding these requests:

1. Streamflows provided by DFG and USFWS constitute best-guess estimates of flows needed to maintain existing fisheries resources. These flow needs are not optimal flow requirements but, rather, are interim flows based upon "best professional judgement." There are a number of studies being conducted which, when completed, will result in the establishment of water requirements for fish and wildlife affected by the Central Valley project (CVP). Therefore, recommended instream flows should be considered "interim" and not "optimum," "minimum," or any other description that would imply numbers based upon completed studies.
2. In Alternative 5, refuge water requests should not have automatic priority over instream flows. DFG and USFWS recognize that priorities may need to be established after the first modeling run is completed because water supplies may not be available for all needs.
3. DFG and USFWS stressed that additional biological impact analyses are needed beyond Reclamation's modeling runs. An impact analysis based on sound biological principles and experience of agency personnel will be required throughout EIS preparation.

DFG sent a follow-up letter dated June 19, 1987 that summarized the instream flow schedules agreed upon at the meeting.

A second meeting was held July 21, 1987 for several reasons. First, it was determined that interim flows provided by DFG and USFWS were far in excess of available water in certain cases; a discussion of prioritization was needed. Second, certain interim flows needed to be verified. As a result of the second meeting, instream flow numbers presented below were used as initial Operations Planning Model input from Alternative 5.

## INSTREAM FLOW NEEDS

The following instream flow needs were used as initial Operations Planning Model input for Alternative 5. Flushing flows requested as acre-feet reserve storage in reservoirs were converted to flow in cubic feet per second averaged over a monthly time-step and are included in the monthly flows.

### Upper Sacramento River

The following minimum base flow estimates (in cfs) are based on a 1979 DFG study and professional judgement of DFG biologists.

<u>Month</u>	<u>Normal/Wet</u>	<u>Dry</u>	<u>Critically Dry</u>
All months	6,000	6,000	4,500

Flows listed above are for releases from Keswick Dam and should be maintained below Red Bluff. The flushing flows (60,000-80,000 cfs) identified in the USFWS letter will not be included. Additional unquantified flows will be required at certain times of the year for water temperature control and dilution of acid mine drainage from Spring Creek. These topics will be addressed in the EIS, but will not be included in the Operations Planning Model analysis.

## CLEAR CREEK

Agency observations over the past several years indicate that Clear Creek has major sedimentation problems. Flows required to flush sediments and benefit salmon outmigrants are estimated to be 1,500 cfs for one continuous 7-day period in May for normal/wet and dry years. The estimated flushing flow is approximately equal to the highest average mean monthly flow. Flushing flows are not required in critically dry years. Instream flow (in cfs) releases from Whiskeytown Reservoir, including flushing flows, are listed below:

## HYDROLOGIC CONDITIONS

<u>Month</u>	<u>Normal/Wet</u>	<u>Dry</u>	<u>Critically Dry</u>
January	130	80	50
February	110	60	0
March	105	55	50
April	130	85	55
May*	165 (302)	125 (311)	95
June	240	190	150
July	150	200	160
August	250	200	160
September	250	200	160
October	245	195	155
November	220	170	130
December	185	135	95

\*Additional flushing flow requirements shown in parentheses.

These flows are based on additional water releases recommended by DFG in addition to current release schedules and estimated flushing flows:

## ADDITIONAL WATER RELEASED FROM WHISKEYTOWN RESERVOIR

<u>Month</u>	<u>Normal/Wet</u>	<u>Dry</u>	<u>Critically Dry</u>
January	80	30	0
February	60	10	0
March	105	55	0
April	80	35	5
May 1	65	35	15
May 15	165	115	75
June	190	140	100
July	200	150	10
August	200	150	110
September	200	150	110
October	195	145	105
November	120	70	30
December	85	35	-5

## Lower American River

Lower American River flows are controlled by Folsom and Nimbus Dams. Adequate flows are critical for chinook salmon and steelhead trout during their spawning, incubation, rearing, and juvenile migration life stages.

Also, striped bass and American shad are important components of the river's anadromous fishery. The instream flow schedule presented here is based on the approximate 50 percent monthly exceedence flows for water years 1956-70.

The instream flow needs (in cfs) are as follows, regardless of hydrologic conditions:

<u>Month</u>	<u>Flow</u>
October	1,750
November	2,000
December	4,250
January	6,000
February	5,000
March	4,800
April	4,600
May*	4,100 (477)
June*	3,750 (493)
July	3,500
August	3,400
September	3,000

\*Additional flows include flows shown in parentheses equivalent to 30,000 acre-feet of water needed for smolt migration, shad attraction flows, temperature control, and gravel recruitment.

## Trinity River

The instream flow schedule (in cfs) presented here is based on an instream flow study performed by the USFWS in 1978.

## HYDROLOGIC CONDITIONS

<u>Month</u>	<u>Normal/Wet</u>	<u>Dry</u>	<u>Critically Dry</u>
October	300	300	300
November	300	300	300
December	300	300	300
January	300	300	300
February	300	300	300
March	450	250	100
April	600	200	100
May*	800 (273)	500	200
June	700	300	100
July	600	300	150
August	400	300	200
September	300	300	125

\*Additional flushing flows shown in parentheses equivalent to 17,161 acre-feet during May required in normal/wet years only. These flows are not adequate to loosen and transport compacted gravels and sediment deposits which have formed over the years below Lewiston Reservoir. Fish and wildlife agency staff believe that substantially higher releases will be required to mitigate the sediment compaction problem.

